EZURiO

Application Note AN0011

Upgrading the BISM to 7 bit firmware

Overview

The BISM2 Intelligent Serial Module can be converted to 7 bit RS-232 Operation by upgrading the firmware. This application note explains the upgrade process.

1. Firmware Upgrade Process

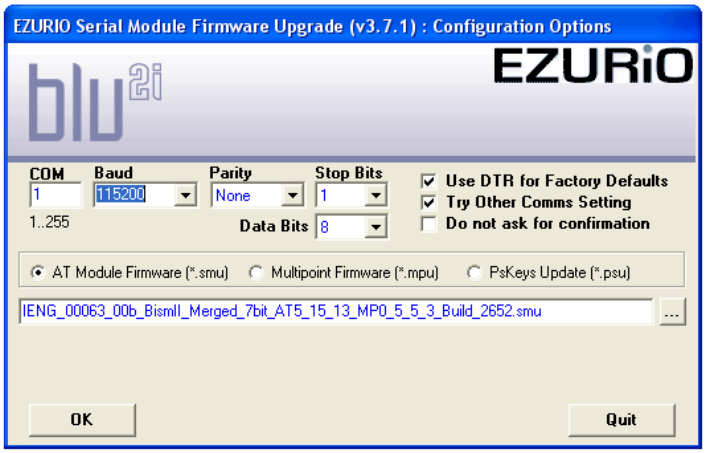
EZURiO has released firmware that converts the BISM2 to 7 bit operation. Registered users can download this from the secure web site at www.blu2i.com.

To install the firmware, unzip the file. Place the BISM2 module on the developer's kit motherboard and connect this to a suitable serial port of your PC. Use a mains supply for the board during the upgrade process to ensure that the power supply is not interrupted.

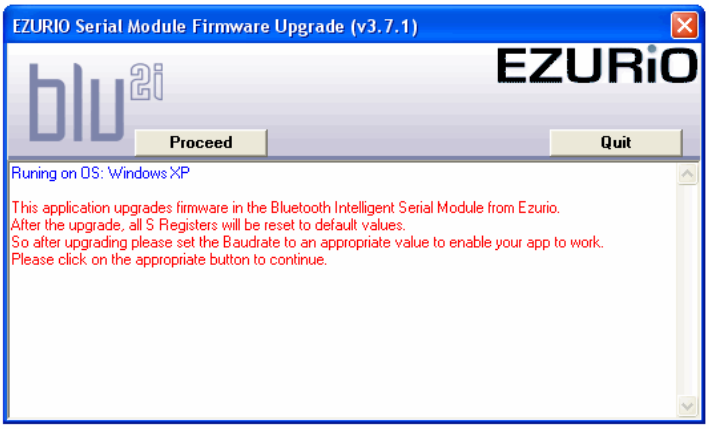
Use EZURiO Terminal to check that the baud rate is correctly set and that the module is responding.

NOTE: The upgrade process may take several minutes, so it is advisable to set the baud rate to the highest rate that the PC can support, and ensure that the module is set to the same rate using ATS520.

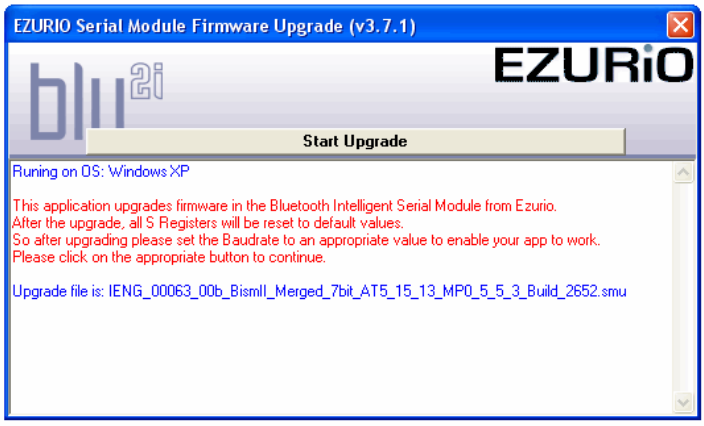
Then start up the upgrade program - TdkSmUpgrade.exe.



Select the correct COM port, Baud rate, Parity and Bits and check that the correct firmware file is displayed. Then hit OK.


EZURIO Serial Module Firmware Upgrade (v3.7.1)
EZURiO
Proceed
Quit
Runing on OS: Windows XP
This application upgrades firmware in the Bluetooth Intelligent Serial Module from Ezurio.
After the upgrade, all S Registers will be reset to default values.
So after upgrading please set the Baudrate to an appropriate value to enable your app to work.
Please click on the appropriate button to continue.

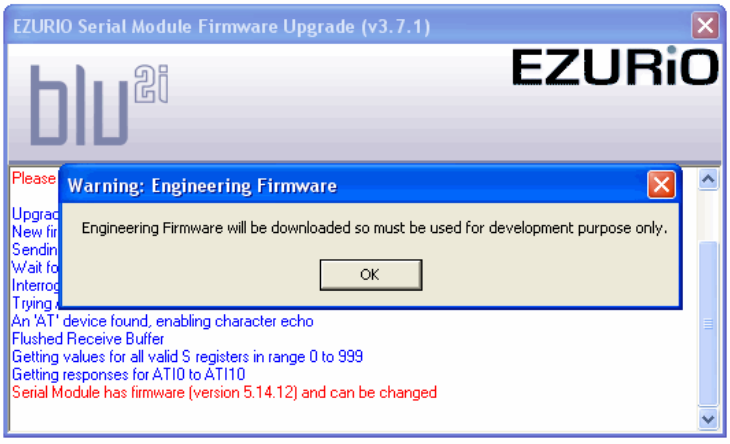
Click Proceed to continue. Note that **ALL** S registers will be reset to default values during the upgrade. However, they will be stored and you will be given the opportunity to restore them at the end of the end of the upgrade process.


EZURIO Serial Module Firmware Upgrade (v3.7.1)
EZURiO
Start Upgrade
Runing on OS: Windows XP
This application upgrades firmware in the Bluetooth Intelligent Serial Module from Ezurio.
After the upgrade, all S Registers will be reset to default values.
So after upgrading please set the Baudrate to an appropriate value to enable your app to work.
Please click on the appropriate button to continue.
Upgrade file is: IENG_00063_00b_BismII_Merged_7bit_AT5_15_13_MP0_5_5_3_Build_2652.smu

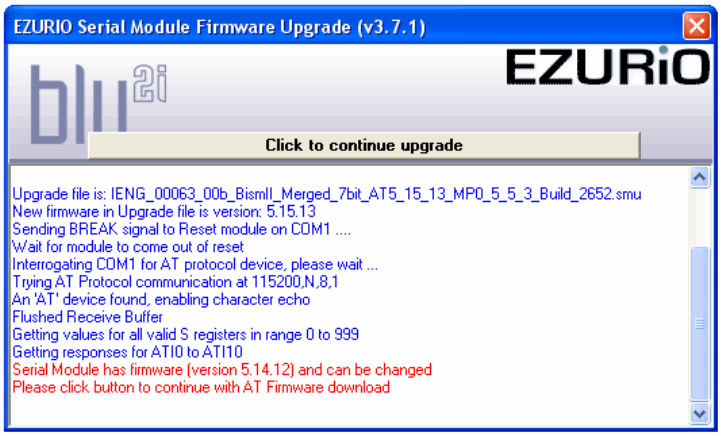
You will be asked to confirm that the correct firmware is being installed. Click Start Upgrade to continue.

NOTE: If this firmware is older than the current version loaded in the BISM, the upgrader will quit. To load an older version of firmware go to a DOS box and run:

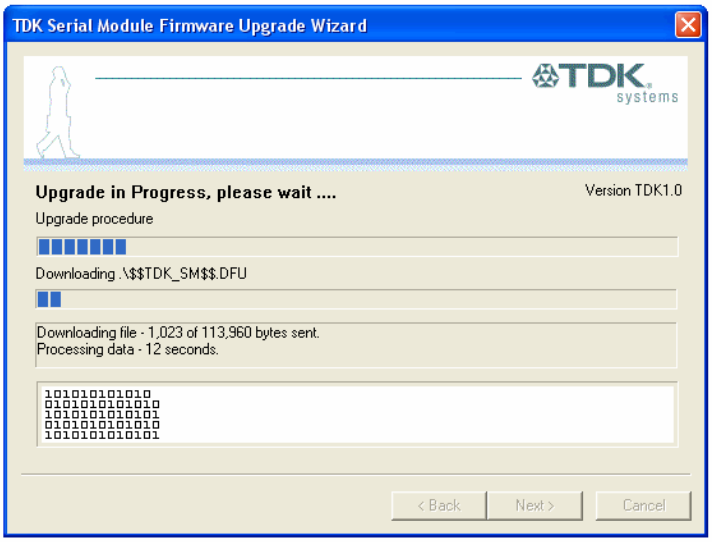
TdkSmUPgrade FORCE


EZURIO Serial Module Firmware Upgrade (v3.7.1)
EZURiO
Warning: Engineering Firmware
Engineering Firmware will be downloaded so must be used for development purpose only.
OK
An 'AT' device found, enabling character echo
Flushed Receive Buffer
Getting values for all valid S registers in range 0 to 999
Getting responses for ATI0 to ATI10
Serial Module has firmware (version 5.14.12) and can be changed

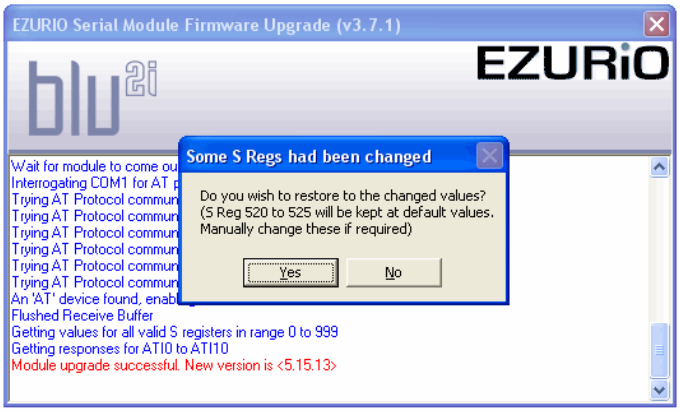
If the upgrade is for engineering firmware, you will be asked to acknowledge this.


EZURIO Serial Module Firmware Upgrade (v3.7.1)
EZURiO
Click to continue upgrade
Upgrade file is: IENG_00063_00b_BismII_Merged_7bit_AT5_15_13_MP0_5_5_3_Build_2652.smu
New firmware in Upgrade file is version: 5.15.13
Sending BREAK signal to Reset module on COM1 ....
Wait for module to come out of reset
Interrogating COM1 for AT protocol device, please wait ...
Trying AT Protocol communication at 115200,N,8,1
An 'AT' device found, enabling character echo
Flushed Receive Buffer
Getting values for all valid S registers in range 0 to 999
Getting responses for ATI0 to ATI10
Serial Module has firmware (version 5.14.12) and can be changed
Please click button to continue with AT Firmware download

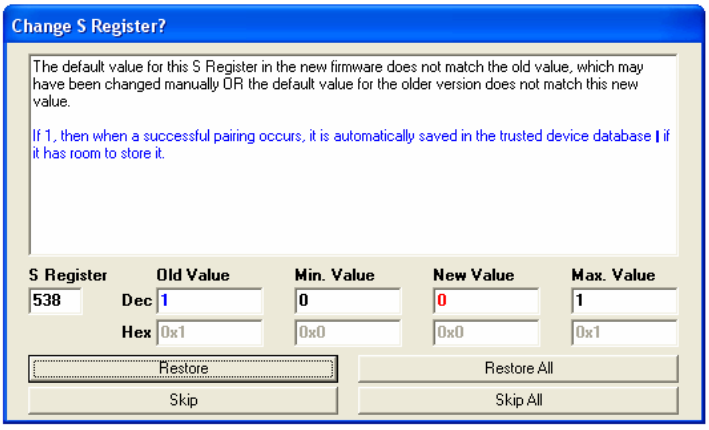
The upgrader will now check the device, before starting the full upgrade. Click “Click to continue upgrade”.



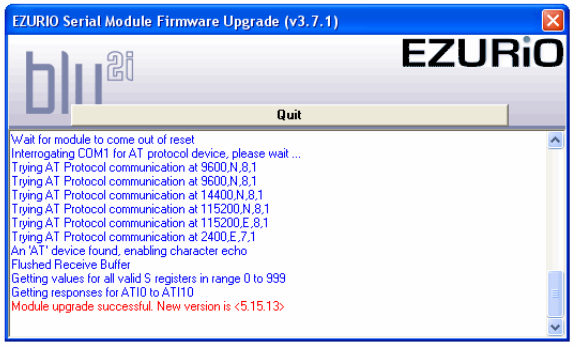
The upgrade process may take several minutes, especially if the module has been set at a low baud rate.


EZURIO Serial Module Firmware Upgrade (v3.7.1)
EZURiO
Some S Regs had been changed
Do you wish to restore to the changed values?
(S Reg 520 to 525 will be kept at default values.
Manually change these if required)
Yes
No
Flushed Receive Buffer
Getting values for all valid S registers in range 0 to 999
Getting responses for ATI0 to ATI10
Module upgrade successful. New version is <5.15.13>

At the end of the process the screen will report a successful upgrade. You now have the opportunity to restore the previous S register values. If you want to do this, select Yes.


Change S Register?
The default value for this S Register in the new firmware does not match the old value, which may have been changed manually OR the default value for the older version does not match this new value.
If 1, then when a successful pairing occurs, it is automatically saved in the trusted device database if it has room to store it.
S Register
Old Value
Min. Value
New Value
Max. Value
538
Dec 1
0
0
1
Hex 0x1
0x0
0x0
0x1
Restore
Restore All
Skip
Skip All

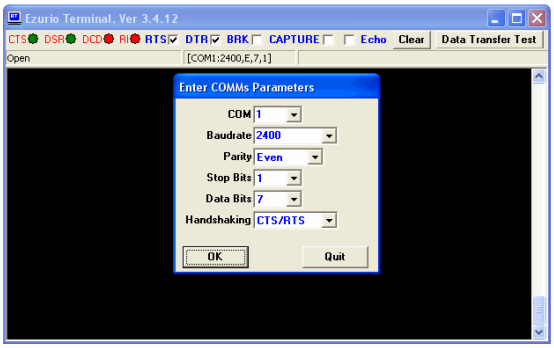
You can step through the S register values one by one. You also have the option to restore all or skip all. The latter which will accept the new default values.


EZURIO Serial Module Firmware Upgrade (v3.7.1)
EZURiO
Quit
Wait for module to come out of reset
Interrogating COM1 for AT protocol device, please wait ...
Trying AT Protocol communication at 9600,N,8,1
Trying AT Protocol communication at 9600,N,8,1
Trying AT Protocol communication at 14400,N,8,1
Trying AT Protocol communication at 115200,N,8,1
Trying AT Protocol communication at 115200,E,8,1
Trying AT Protocol communication at 2400,E,7,1
An 'AT' device found, enabling character echo
Flushed Receive Buffer
Getting values for all valid S registers in range 0 to 999
Getting responses for ATI0 to ATI10
Module upgrade successful. New version is <5.15.13>

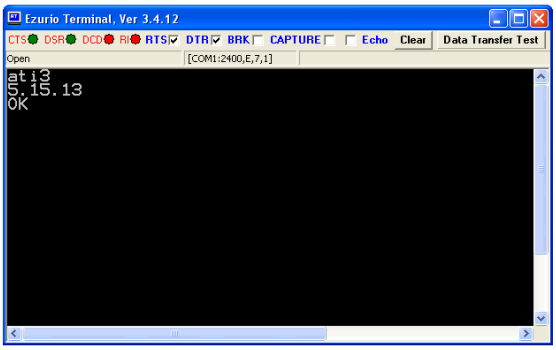
The upgrader will check communication with the module at a variety of different baud rates before setting the default communication parameters.

Default Comms Parameters	
Baud Rate	**2,400**
Parity	**Even**
Data Bits	**7**
Stop Bits	**1**

To check the upgrade, start EZURiO Terminal, and enter these communication parameters:



Sending an ATI3 command should return the correct firmware version.



If the screen does not respond with appropriate characters, check that the communications parameters have been set to the new default values, i.e.

2,400 Baud, Even parity, 7 data bits, 1 stop bit.

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